

Claims

- [c1] A composite tank stiffener comprising:
at least one generally cylindrical pipe and strut possessing at least one slip joint selected to provide (1) compressive dimensional limit by abutting slip joint surfaces and (2) telescoping moment restraint during axial relative positional movement by congruent wall slip joint surfaces,
said generally cylindrical pipe and strut connecting the two internal faces of two composite boss for a filament wound tank.
- [c2] The composite tank stiffener of claim 1 whereby said generally cylindrical pipe and strut possesses at least one opening and inlet for the transfer of fluids in common with fluid inlets of said filament wound tank.
- [c3] The composite tank stiffener of claim 2 whereby said generally cylindrical pipe and strut also possesses openings in communication with the internal volume and reservoir of said tank.
- [c4] The composite tank stiffener of claim 1 whereby said internal faces of two opposing composite boss are connected by multiple units of said generally cylindrical pipe and strut.
- [c5] The composite tank stiffener of claim 1 whereby said two opposing composite boss are selected of a size, shape, and strength to provide the supporting structure for the filament winding of the composite body of said filament wound tank.
- [c6] An expandable composite tank cylindrical wall form comprising:
a first and second domed head form and boss selected to provide size, shape, and rigidity for the support of filament windings,
connected to opposing ends of a pipe and telescoping slip joint assembly selected to provide limited compressive movement by abutting end surfaces within said slip joint and moment restraint during relative dimensional movement between said first and second head forms.